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Nathan Schumaker <​█████████████████████████​>

HexSim NSO Baseline Scenario

Anthony, Robert G - FW <robert.anthony@oregonstate.edu>   **Wed, Aug 4, 2010 at 11:11 AM**
To: Jeffrey Dunk <Jeffrey.Dunk@humboldt.edu>, Nathan Schumaker <​███████████████████​>, Brian
Woodbridge <Brian_Woodbridge@fws.gov>
Cc: "katie.dugger@orst.edu" <katie.dugger@orst.edu>, Dave LaPlante <dave@nrg-gis.com>

Hey Everyone:

I am a bit behind in responding to all of these emails on HexSim output, so please ignore or forgive
me if some of my comments here or in response to other comments seem inappropriate or not
timely. I have been catching up on some other things that were put on hold over the last two weeks.

I agree with Nathan and Jeff that the latitudinal scaling among the different zones is a bit problematic.
Jeff makes some good points about the relative differences between the CA redwoods and CA and
OR Klamath. I also would not necessarily expect the heart of the population to be in the redwood
zone 50-150 years from now. I agree with Jeff that the redwood zone is somewhat anomalous and
we may have to model it differently. In the same vane, it does not seem logical for the resource
target for the WA OLY to be 2+ times greater than that for the WA Cas. This is probably a question
for some of the biologists in Washington (Scott Gremel, Dale Herter, Stan Sovern). Some
adjustments may be needed there also. I noted Jeff's suggestion to scale by minimum home range
size by zone, but I am not sure that will capture the perceived differences among the zones. Home
range data may not be sufficient for some zones for use in this scaling aspect but Brendan can
probably comment on that since he compiled and summarized the data.

I am still somewhat concerned about the latitudinal scaling in both HexSim and Maxent and whether
the two together will result in predictions that are too concentrated in the southern portion of the
species range. I guess some initial computer runs will tell us this but it would be better to get this
resolved up front.

I will respond to the other emails where I think it may be appropriate.

Bob

From: Jeffrey Dunk [mailto:Jeffrey.Dunk@humboldt.edu]
Sent: Monday, August 02, 2010 11:38 AM
To: 'Nathan Schumaker'; 'Brian Woodbridge'
Cc: Anthony, Robert G - FW; katie.dugger@orst.edu; 'Dave LaPlante'
Subject: RE: HexSim NSO Baseline Scenario

Nathan Schumaker <▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮>

HexSim NSO Baseline Scenario

Anthony, Robert G - FW <robert.anthony@oregonstate.edu>   **Wed, Aug 4, 2010 at 11:38 AM**
To: Nathan Schumaker <▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮>

Nathan:

From my standpoint the useful information includes population size over time, dispersal path length, explored areas quality, stage-specific fecundity, mean survival rates, number of spotted owl territories with and without barred owls, and DSA population trends. Although the occupancy figure(s) is informative, I had a hard time observing and interpreting some of the differences across the range of the species.. As for the mean survival rates (stage x resource x barred owls) figure, it was not clear to me how one should interpret "stage x resource x barred owls" aspect of the figure. Some explanation would help me with this. Also, the annual variation in survival rates in this figure looks much greater than what we see in the demographic data

From most of the study areas. Annual variation in survival is low for most of the study areas.

One thing that I noticed in the DSA population trends that was not intuitive was the following: Populations on OLY, TYE, and COA appear to go extinct while populations on RAI, Warm Sprs, and WEN do not. The most stable populations according to the last analyses were on TYE, KLA, SCA, and HOOPA, so these results from the HexSim modeling don't seem to reflect the current state of our knowledge. Have I missed something here? Do these results reflect the scaling issues that we have discussed in previous emails? Another result that did not reflect our current state of knowledge was the decline in the number of spotted owl territories with barred owls. Data in the most recent meta-analysis indicates that the proportion of territories with barred owl has been increasing steadily over the last 10-15 years depending on the geographic location of the study area. We may have to think about how we might use the data in the meta-analysis to reflect this increase in barred owls once we have a baseline model that is working well.

Bob

From: Nathan Schumaker [mailto:▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮]
Sent: Monday, August 02, 2010 3:28 PM

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HexSim NSO Baseline Scenario

Anthony, Robert G - FW <robert.anthony@oregonstate.edu>   **Wed, Aug 4, 2010 at 12:25 PM**
To: Nathan Schumaker <████████████████████>
Cc: Jeffrey Dunk <Jeffrey.Dunk@humboldt.edu>, Brian Woodbridge <Brian_Woodbridge@fws.gov>,
"katie.dugger@orst.edu" <katie.dugger@orst.edu>, Dave LaPlante <dave@nrg-gis.com>

Nathan:

Here's some thoughts and comments on the scaling issue:

First, as I mentioned earlier today, I think the relative scaling between WA Olympic and WA
Cascades in the table is too extreme. I don't think the resource requirements for owls in the
Olympics is 2+ times greater than that of owls in the WA Cascades North. I also think the scaling for
the CA redwoods is too low (Jeff's comment earlier this week) and it should be comparable to CA
Klamath and OR Klamath, OR treated separately. This is reflected by the dramatic increase in the
owl population over time in the redwood coast in the attached figures. Some other aspects of the
figures that do not seem plausible or intuitive based on what we know about regional demography of
the species are:

1. The precipitous decline in populations in the West Cascades South.

2. The Oregon Coast going to almost extinction, while

3. The East Cascades South population staying relatively stable.

The projected populations in the Klamath East and West look reasonable, and I think that is where
the majority of the population will reside in the future. Projections for the Puget/Willamette zones
seem meaningless to me since there is very little owl habitat and federal lands in those zones.
Maybe those zones should be combined into one large zone. My comments for what they are worth!

Bob

From: Nathan Schumaker [mailto:████████████████████████]
Sent: Wednesday, August 04, 2010 11:34 AM
To: Anthony, Robert G - FW
Cc: Jeffrey Dunk; Brian Woodbridge; katie.dugger@orst.edu; Dave LaPlante

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HexSim NSO Baseline Scenario

Jeffrey Dunk <Jeffrey.Dunk@humboldt.edu>   **Wed, Aug 4, 2010 at 12:50 PM**
To: "Anthony, Robert G - FW" <robert.anthony@oregonstate.edu>, Nathan Schumaker
<▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮>
Cc: Brian Woodbridge <Brian_Woodbridge@fws.gov>, katie.dugger@orst.edu, Dave LaPlante <dave@nrg-gis.com>

Bob:

Do you think the WA Olympic owl home ranges are too big (estimated to be) or that the WA
Cascades home ranges are too small – or a bit of both? I'm guessing it's that the WA Cascades
value may be too small. The population changes that we should be paying attention to on the graphs
are those after about year 50 - before that the initial set of owls is just getting settled (as I
understand things). Nonetheless, there are still some fairly significant declines projected to occur
over time in the West Cascades South. The resource needs of those owls are set (in HexSim) to be
just a little larger than owls in the CA and OR Klamath.   Maybe those values should be set to be
equal to each other?

Jeff

From: Anthony, Robert G - FW [mailto:robert.anthony@oregonstate.edu]
Sent: Wednesday, August 04, 2010 12:25 PM
To: Nathan Schumaker
Cc: Jeffrey Dunk; Brian Woodbridge; katie.dugger@orst.edu; Dave LaPlante

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HexSim NSO Baseline Scenario

Anthony, Robert G - FW <robert.anthony@oregonstate.edu>   **Wed, Aug 4, 2010 at 1:38 PM**
To: Jeffrey Dunk <Jeffrey.Dunk@humboldt.edu>
Cc: Nathan Schumaker < ████████████████ >, Brendan White <Brendan_White@fws.gov>

Jeff:

After looking at the home range sizes for the Olympics compared to the WA and OR Cascades, I
believe it is the result of the estimates for the Olympics being much larger than those for the other
two zones. The resource needs for the West Cascades South and Oregon coast should be similar
but slight larger than that for the OR Klamath in my way of thinking.

From: Jeffrey Dunk [mailto:Jeffrey.Dunk@humboldt.edu]
Sent: Wednesday, August 04, 2010 12:50 PM
To: Anthony, Robert G - FW; 'Nathan Schumaker'
Cc: 'Brian Woodbridge'; katie.dugger@orst.edu; 'Dave LaPlante'

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